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NORWEGIAN INSTITUTE OF BIOECONOMY RESEARCH

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Rakel Jonsdottir - PhD projects

Division of Forest and Forests resources

Statskog
vi gir deg naturen

SKOGFRØVERKET
Stiftelsen Det norske Skogfrøverk

Fagrådet for skogplanteskolene

Skogplanter
østnorge as

Skogplanter Midt-Norge AS

Project 1.
Bud break and frost tolerance in Norway spruce during spring

- Skogfrøverkets breeding center in Kvatninga
- Provenance test with 8 provenances, of contrasting origin.
- Considerable differences in bud flush between the provenances
- Is there a difference in their frost tolerance during late winter – spring?
- Are there patterns that correlate with the timing of bud flush?
- Could reveal the effects of warm spells during winter on those provenances in the early years after planting

Provenance test in Kvatninga

Project 2. Reforestation – Root growth

- Climate changes (drought, rainfall and long, mild autumns) can place great demands on the ability of forest seedlings to establish.
- Milder climate could change forest management in some ways.
- How do different planting dates during autumn affect the establishment of newly planted seedling compared to spring planting?
- More knowledge is needed about the properties of new, fast growing provenances like Undesløs in Trøndelag
- Fertilization at planting - Argrow
- Increased diameter – Pine weevil

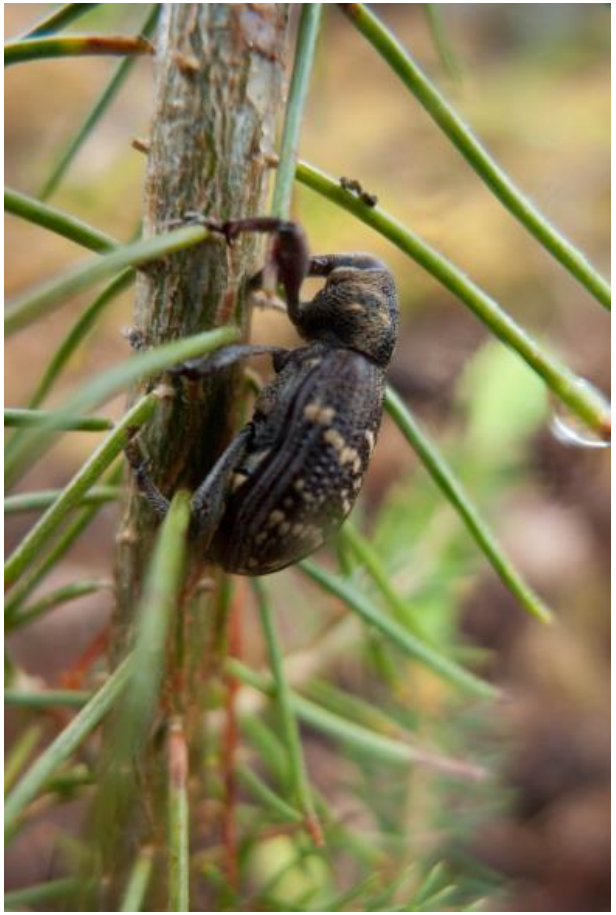

Photo: Inger Sundheim Fløistad

Project 3. Forest seedling production
Norway spruce mini seedlings - Storability and Root Frost Tolerance

- New technology is used in forest seedling production – robots used to transplant young mini seedlings
- Poor root growth in transplants stored over the winter time in freezers.
- Worse in provenances from southern latitudes witch develop root frost tolearance later than provenances from northern latitudes.
- The problem could be related to lack of root frost tolerance at storing time, causing damage to the roots when frozen
- Seedlings can loose energy (carbohydrates) during long storage, leading to lower vitality after storage
- The development of root frost tolerance in mini seedlings will be monitored during autumn and their carbohydrate reserves measured during storage to detect possible reduction

Transplants sown in august and june, 6 cm height

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THANK YOU ☺